



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/665,970	09/18/2003	Mani Soma	4735.P005	8349
7590	01/19/2006			
Jan Carol Little BLAKELY, SOKOLOFF, TAYLOR & ZAFMAN LLP Seventh Floor 12400 Wilshire Boulevard Los Angeles, CA 90025-1026			EXAMINER BUI, BRYAN	
			ART UNIT 2863	PAPER NUMBER
DATE MAILED: 01/19/2006				

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/665,970

Applicant(s)

SOMA ET AL.

Examiner

Bryan Bui

Art Unit

2863

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 05 December 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1 and 5-38 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 13-22 and 33-38 is/are allowed.
- 6) ☒ Claim(s) 1,5-9, 11-12, 23-32 is/are rejected.
- 7) ☒ Claim(s) 10 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

1. Applicants' paper filed on 12/5/2005 have been received and entered. Claims 2-4 have been cancelled. Claims 1, 23 and 29 have been amended. Claims 1, 5-38 are pending in the application.

2. Applicants' remark has been considered, but it is not persuasive.

1. The examiner reminds to the applicants that during patent examination, the pending claims must be "given the broadest reasonable interpretation consistent with the specification. Applicants always have the opportunity to amend the claims **during prosecution and broad interpretation by the examiner reduces the possibility that the claims, once issued, will be interpreted more broadly than is justified. In re prater, 415 F.2d1393, 1404-05, 162USPQ541, 550-51 (CCPA 1969).**

2. The definitions of the wavelet and wavelet transform have been attached in order to interpreting the functional languages that well known in the technology; the processor and RF model are considered such a machine accessible medium include data to perform the operating.

### ***Claim Objections***

3. Claims 5-6 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. The claims depended on a cancelled claim. Examiner interpreted these claims are depended on claim 1 for purpose of examination. The correction is required.

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1, 5-8, 23, and 29-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tekinay (US6175811).

With respect claims 1, 23, 29, Tekinay discloses the claimed invention in figures 7, 9, abstract, and column 12, lines 25-38, comprising: applying a wavelet (wavelet representation) to radio frequency signal under test; extracting parameters (defining the amount of multipath components that signal were to travel in a region of RF) from the RF signal using a wavelet transform of the RF signal. Tekinay further discloses in figures 3-4 and column 9, lines 6-47, column 9, lines 1-12, column 12, lines 25-30, for extracting at least one timing parameter from the RF signal, and includes **at least one** of a clock period and/or jitter rate of the RF signal (noted the extracting a jitter rate adjusting the value of known time-shift associated with the basis parameter by an amount based on the difference between the value of the basis parameter and the value of the given parameter). Therefore, it would have been obvious to one of ordinary skill in the art to modify the teachings of Tekinay to includes **at least one** of a clock period and/or jitter rate of the RF signal as a function discloses in figures 3-5 of Tekinay to improve the measure distributions of the wavelet in RF signal (column 7, lines 48-52).

With respect to claims 5-8, 30, and 31 Tekinay further discloses in figures 3-4 and column 9, lines 6-47, column 9, lines 1-12, column 12, lines 25-30, for rise time and fall time for RF signal; extracting at least one frequency parameter, a frequency increase from the RF signal, phase (shape) from RF signal (noted that the wavelets are localized in both time and frequency as inherently known in the art that define time to frequency is represented in wavelet transform).

6. Claims 11, 12, 24-25, 27, 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tekinay (US 6175811) in view of Wavelet-Wikipedia, the free encyclopedia (6 pages that disclosed in the previous office action).

With respect to claims 11, 12, 24-25, 27, 28, Tekinay does not mentioned a Morlet wavelet, a Haar wavelet used in wavelet tool. It is appreciated by one skill in the art to define the wavelets could be classified into the discrete and continuous wavelets in which Haar wavelet and Morlet wavelet are commonly used in the technology by Wavelet-Wikipedia, the free encyclopedia for satisfying the respective transform for each suitable application for extracting frequency and timing characteristics.

Claim 26 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tekinay (US 6175811) in view of Wavelet-Wikipedia, the free encyclopedia (6 pages that disclosed in the previous office action) and further in view of Peele et al (US 5990823).

Tekinay and Wavelet-Wikipedia, the free encyclopedia discloses the features of the claim inventions as set forth rejections above which includes Morlet wavelet or Haar wavelet applying to the RF signal for extracting the timing and frequency characteristics from the RF signal, but do not disclose tool for extracting phase characteristic. Peele et

Art Unit: 2863

al discloses in figure 2, wavelet processor is coupled to phase detector to extract phase characteristic from RF signal (received in RF receiver). It would have been obvious to one of ordinary skill in the art to modify Tekinay's teachings to include the phase detector coupled with wavelet processor as taught by Peele et al to detecting and extracting the phase from the incoming RF signal to provide a system more accurate in process.

***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 9 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tekinay (US 6175811) in view of Peele et al (US 5990823).

Tekinay disclose the claimed invention as set forth above, except discloses wavelet tool is coupled to extract phase characteristics from the RF signal. Peele et al discloses in figure 2, wavelet processor is coupled to phase detector to extract phase characteristic from RF signal (received in RF receiver). It would have been obvious to one of ordinary skill in the art to modify Tekinay's teachings to include the phase detector coupled with wavelet processor as taught by Peele et al to detecting and extracting the phase from the incoming RF signal to provide a system more accurate in process.

***Allowable Subject Matter***

9. Claim 10 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

10. Claims 13-22, and 33-38 are indicated allowable over the prior art of record because none of the prior art disclose or suggest the **claimed combination** as recited in steps of performing and operation of computing and searching.

***Response to Arguments***

11. Applicant's arguments filed 12/5/2005 have been fully considered but they are not persuasive.

Applicants' argue that the prior art does not teach wherein timing parameter includes at least one of a clock period and/or jitter rate of the RF signal. However, while the prior art interpreted the time shifted in the limitation of the claim invention, but applicants' response just mentioned that is different with the limitation of the claim. What ever condition, in order to show the distinction, the claim must be show that different function. **Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See In re Van Geuns, 988 F. 2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).**

***Conclusion***

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

13. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bryan Bui whose telephone number is 571-272-2271. The examiner can normally be reached on M-Th from 7am-4pm, and Alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John E. Barlow can be reached on 571-272-2269. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

BB

1/12/2006

BRYAN BUI  
PRIMARY EXAMINER

A handwritten signature in black ink, appearing to read 'Bryan Bui', is written over the printed name and title.